

BOOKS

An Illustrious Scientist's Life, Recounted With A Lyric Touch

THE STATUE WITHIN: An Autobiography

François Jacob; translated by Franklin Philip
Basic Books; New York; 326 pages; \$22.95

REVIEWED BY
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François Jacob is the most illustrious of French scientists living today. His autobiography, *La Statue Intérieure*, has drawn wide attention in France. Now in its lucid English translation, *The Statue Within* should have an equally broad appeal in the U.S. As a work of literature, it evokes unmistakable overtones of Rousseau, Proust, and Sartre—it is hard to imagine French autobiography that would ignore those traditions—and the book shows a sure, lyric touch.

Scientists will have a particular interest in this remarkably intimate confession of the personal development of an outstanding figure in the history of modern molecular biology. Those outside that particular discipline will gain a good sense of the chase for the elusive concepts of gene regulation and messenger RNA, concepts that have guided the field for the past three decades.

Jacob's life begins in the city of Nancy in 1920, where he is the only child of a thoroughly assimilated

French Jewish family (his grandfather was the first Jew to achieve the rank of four-star general in the French Army). Young Jacob's education in a Paris boy's school seems an unmitigated blight, intellectually and emotionally. These years evoke no evidence of talent or commitment, and leave him with little more than humiliation and bitterness from being taunted as a Jew, not truly French.

For lack of any better alternative, Jacob begins medical studies. He is deeply attached to his mother, and June 1940, the month he turns 20, brings him the double tragedy of losing her to cancer and seeing Paris fall to the Nazi army. It's the mood of these events that opens the book; young Jacob is preoccupied with death, with a mutilated comrade-in-arms who contemplates killing himself, and with reflections on suicide as the ultimate means of asserting the self—and thereby cheating fate.

Jacob decides to flee France to join De Gaulle's Free French Army in London. From that point, he begins to take charge of his life. He lives with a passion, contributing

to the war against Hitler by serving as a doctor in Africa, and then as a soldier in Normandy. There, as Jacob strives to shield a fellow soldier, his leg is shattered by shrapnel—his friends know the injury still plagues him today,—and thus the young soldier is cheated of a triumphal march to Paris.

Jacob's wartime injuries and the hiatus in his studies hinder his return to medicine. By sheer inadvertence, he is moved to think of biological research; and his (and science's) greatest fortune is an encounter with André Lwoff at the Pasteur Institute.

Between 1950 and 1960, Jacob develops from a 30-year-old ignoramus (his description) into one of the most creative investigators of his time. With Jacques Monod and Elie Wollman, he straightens out

the confusing tale of the mechanism of sexual conjugation in *Escherichia coli*, and uses this system to demonstrate the repressor control of gene expression, both for enzyme synthesis and for pro-virus maturation.

Before the decade is over, he (with Sydney Brenner and Matthew Meselson) has demonstrated that messenger RNA is an intermediate in gene expression. At this point, Jacob ends the book—on a note of anticipation about the next experiment. But we know that in 1965 he shared the Nobel Prize with Monod and Lwoff.

Jacob also has much to offer about the peculiarities of the French academic system in discouraging the utmost creativity in biological research—a mantle that has fallen to the Pasteur Institute—and the growing pattern of research institutes outside the universities.

I found this a fascinating work, and I am sure this enthusiasm comes from more than my toiling in the same vineyard for many years. It will set a new standard in scientific autobiography.

Jacob has had many illustrious careers. This, his most imaginative work, was foreshadowed by other writings (*The Logic of Life, The Possible and the Actual*). It would be small surprise if he has still another career before him, in literature; and who knows, after that, in sculpture. □

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JACOB: "Ignoramus" to genius.